Southern Sierra Geographic Information Cooperative

Develop a Landscape-Scale Framework for Interagency Wildland Fuels Management Planning

December 2002
Association for Fire Ecology Conference
San Diego, California

Funded by the Joint Fire Sciences Program

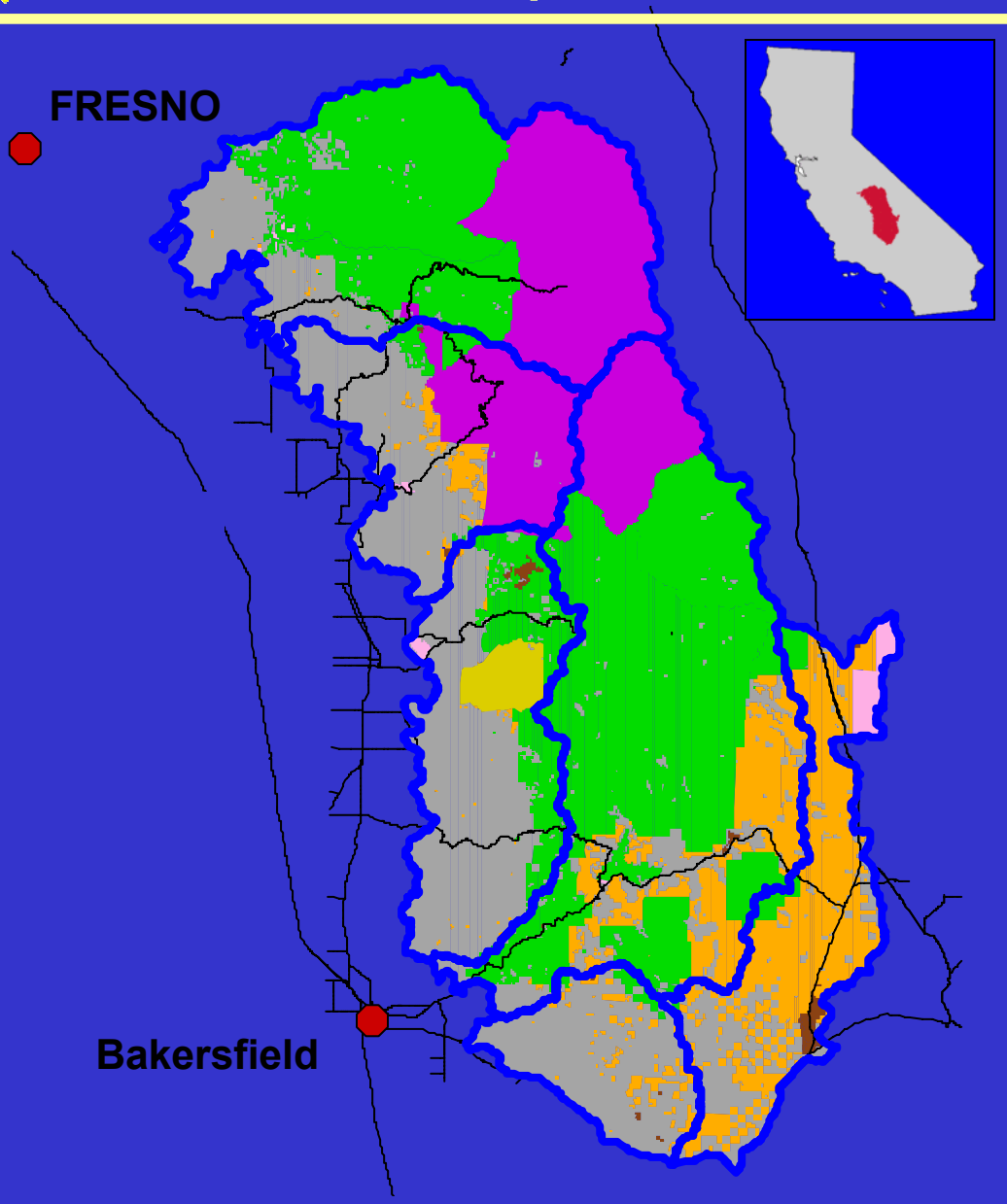
Government without boundaries

Heavy Reliance on Information Technologies including the Internet and GIS

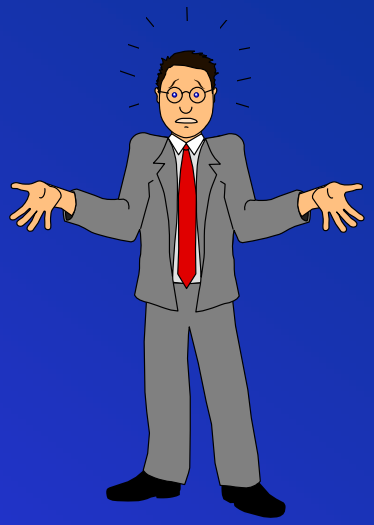
Southern Sierra Geographic Information Cooperative (SSGIC)

4.7 Million Acres

- US Forest Service
- Tule Indian Reservation
- Privately-Owned
- National Park Service
- Bureau of Land Management



- What?
- Why?
- How?
- What we've learned!



- The greatest value of Information Management Technologies (IMT) to fire management is not simply to make a better map, access data faster, or to perform an analysis using new techniques……

- Rather, the greatest value comes from helping public agencies redefine they how coordinate activities and make fire and fuels management decisions at a landscape scale rather than within an agency boundary.

Vision

- "Seamless" fire data (including fuels) is available across watersheds
- A basic and consistent set of digital geospatial data is widely used
- GIS Analyses, such as Hazard, Risk, and Value are completed, available, and applied across watersheds and agency boundaries
- GIS support for Emergency Management is improved with 24/7 access

Vision … continued

- Agencies have improved cooperation and coordination

- Agencies are using the best available and most appropriate information and technologies

- Standard business processes have been implemented

- **Ultimately ….**

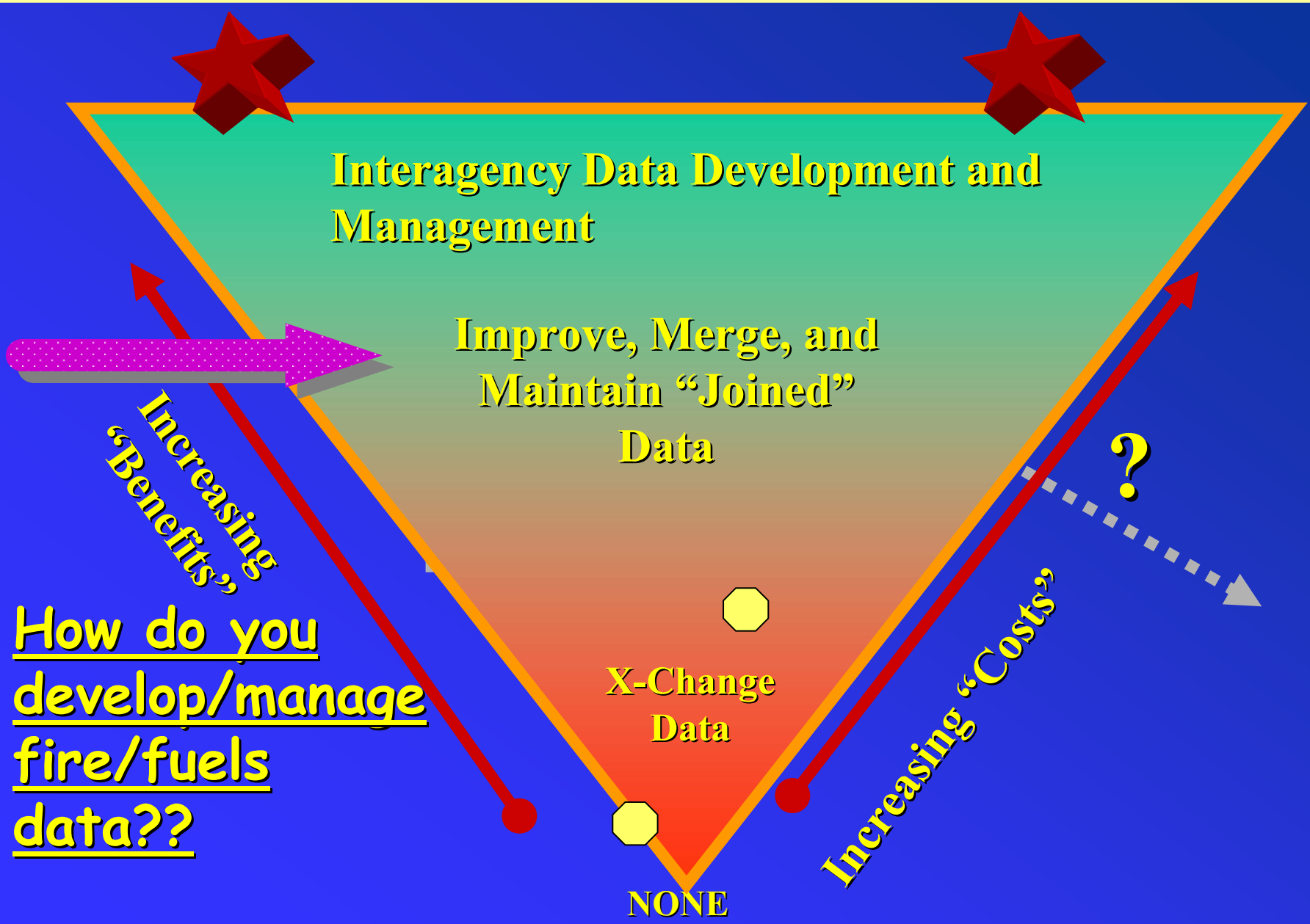
Fuels treatment areas are being defined and treated collaboratively across landscapes using best available data and analyses

- Further ….

Data and Analyses including metadata are available real-time 24/7

Why?

- Cost Effective
- Resources Benefit
- Enhanced Firefighter and Public Safety


Interagency Data Development and Management
Improve, Merge, and Maintain "Joined" Data
Increasing "Benefits"
Increasing "Costs"
?
X-Change Data
NONE
How do you develop/manage fire/fuels data??

How?

- **Southern Sierra Geographic Information Cooperative (*SSGIC*)**

Established January, 2000

- Sequoia and Kings Canyon National Parks
- Sequoia National Forest
- California Department of Forestry - Tulare Ranger Unit
- Kern County Fire Department
- Bureau of Land Management - Bakersfield District

Five Focus Areas

- Project Management
- Data Development and Management
- Analyses
- Delivery of Data and Information
- Interagency Integration Planning

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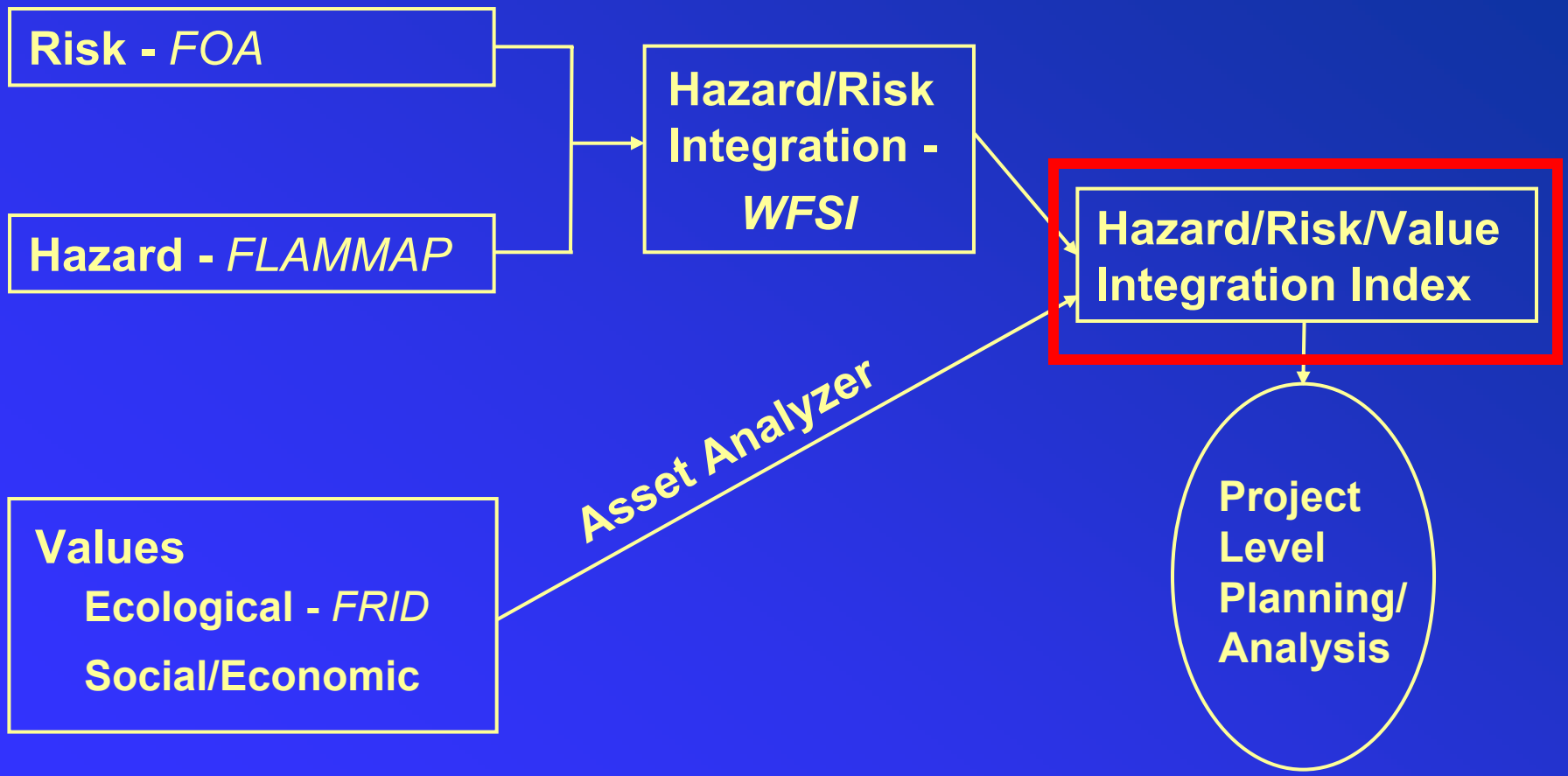
SSGIC Analysis Framework

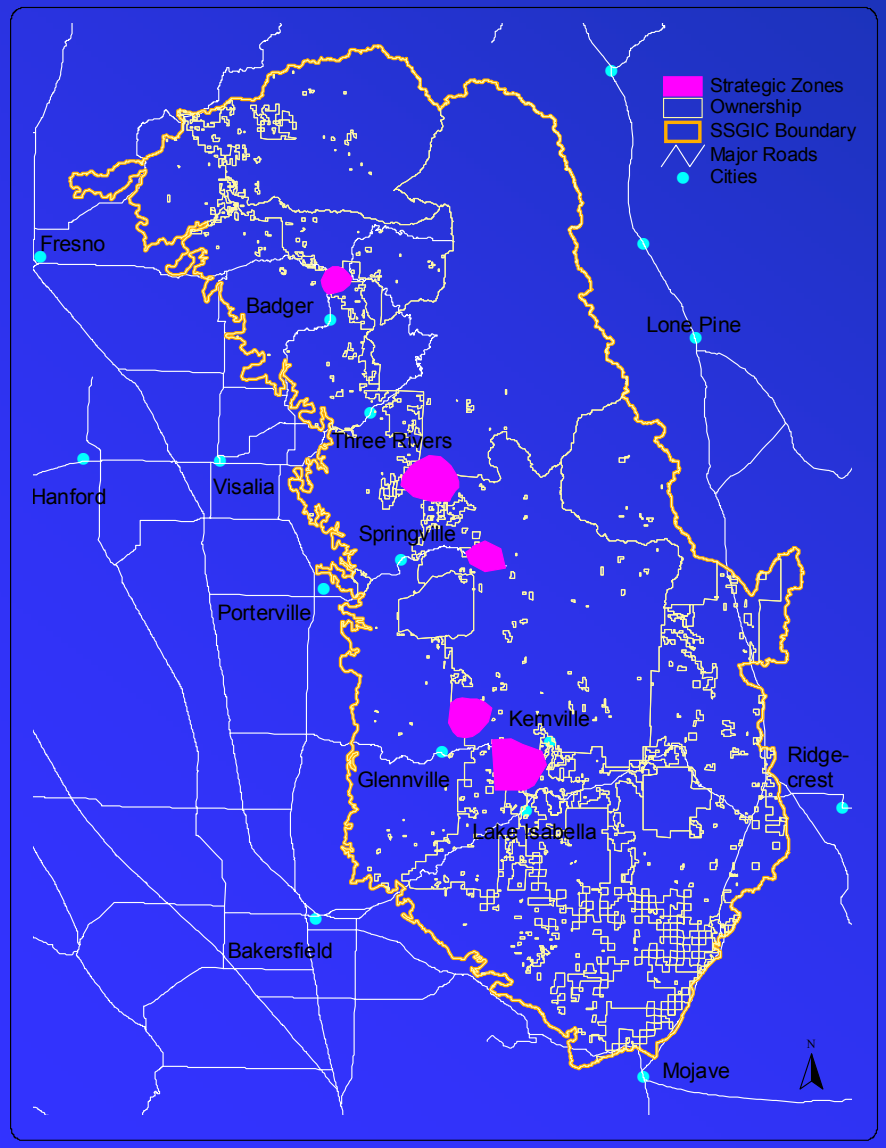


Southern Sierra Geographic Information Cooperative

‘Juggling’ Multiple Fire Objectives

Asset Analyzer Tool

Fire Management Strategy Zones



- 91,000 acres identified in five "Fire Management Strategy Zones"
- Although the zones were manually delineated, a model can be built to further automate the selection of high priority fuel treatment zones

Five Focus Areas

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DELIVERY

Southern Sierra Geographic Information Cooperative

Improving Public Safety & Protecting Resources

Who Are We?

The Southern Sierra Geographic Information Cooperative (SSGIC) is focused on developing and testing an approach to incorporate wildland fuels information management into an interagency, landscape-scale planning framework. The primary goals are to reduce fiscal costs to both government agencies and the public and to improve attainment of ecological and hazard reduction goals across jurisdictional boundaries. The project area includes six major watersheds (Kaweah, Kern, Kings, Caliente, Mojave, and Tule watersheds) covering an area of about 4.7 million acres (see map). The major stakeholder agencies include: Sequoia and Kings Canyon National Parks, Sequoia National Forest, Bureau of Land Management - Bakersfield District, California Department of Forestry - Tulare Ranger Unit, and Kern County Fire Department. Learn more about the SSGIC.

Download data by watershed.

Find documents related to the Southern Sierra.

Make a map of your area of interest.

Explore links to fire and agency cooperators.

SSGIC PARTNERS:

U.S. Bureau of Land Management | California Department of Forestry | Kern County Fire Department | U.S. National Park Service | U.S. Forest Service

Southern Sierra Geographic Information Cooperative

Improving Public Safety & Protecting Resources

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Five Focus Areas

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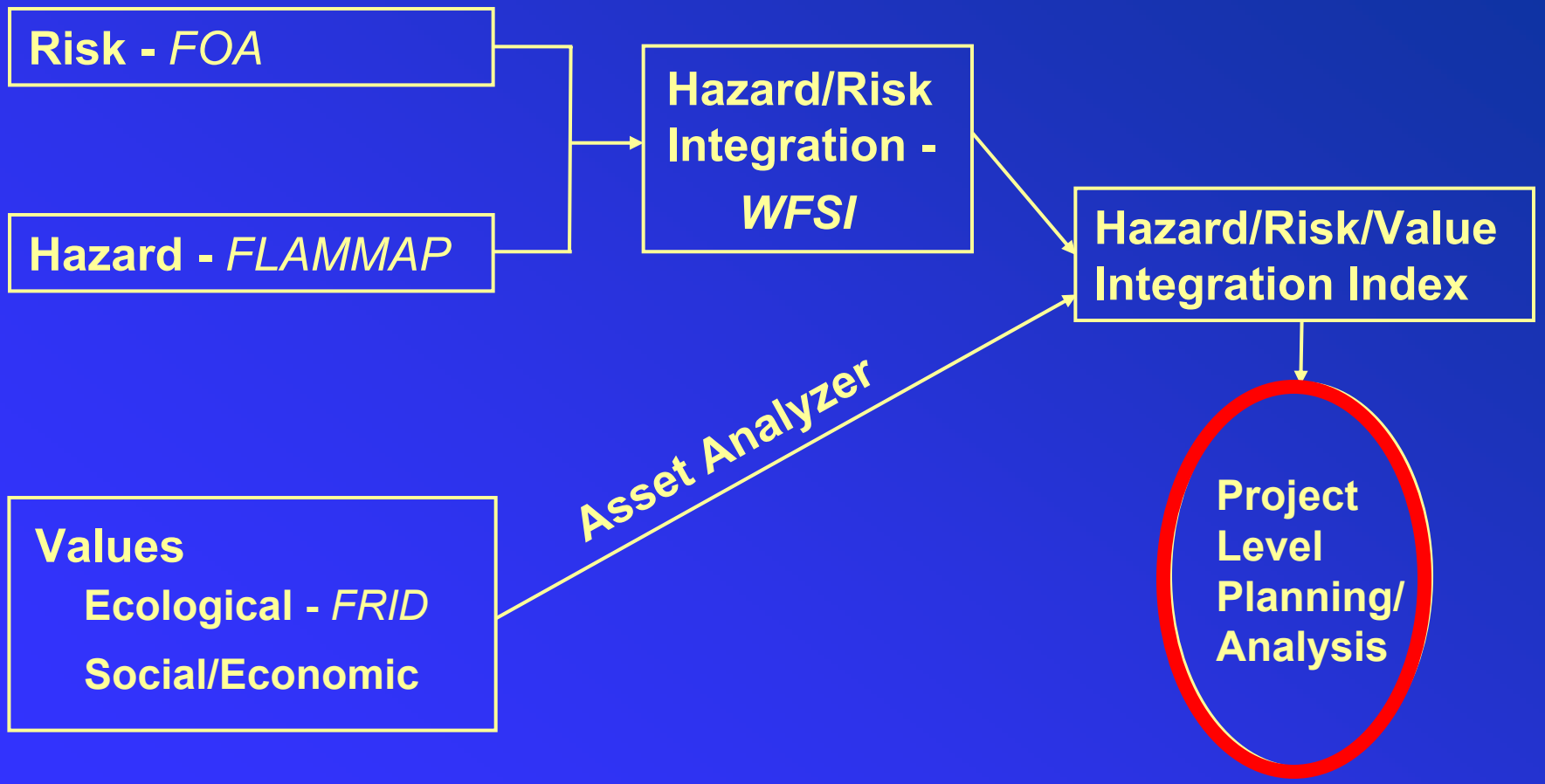
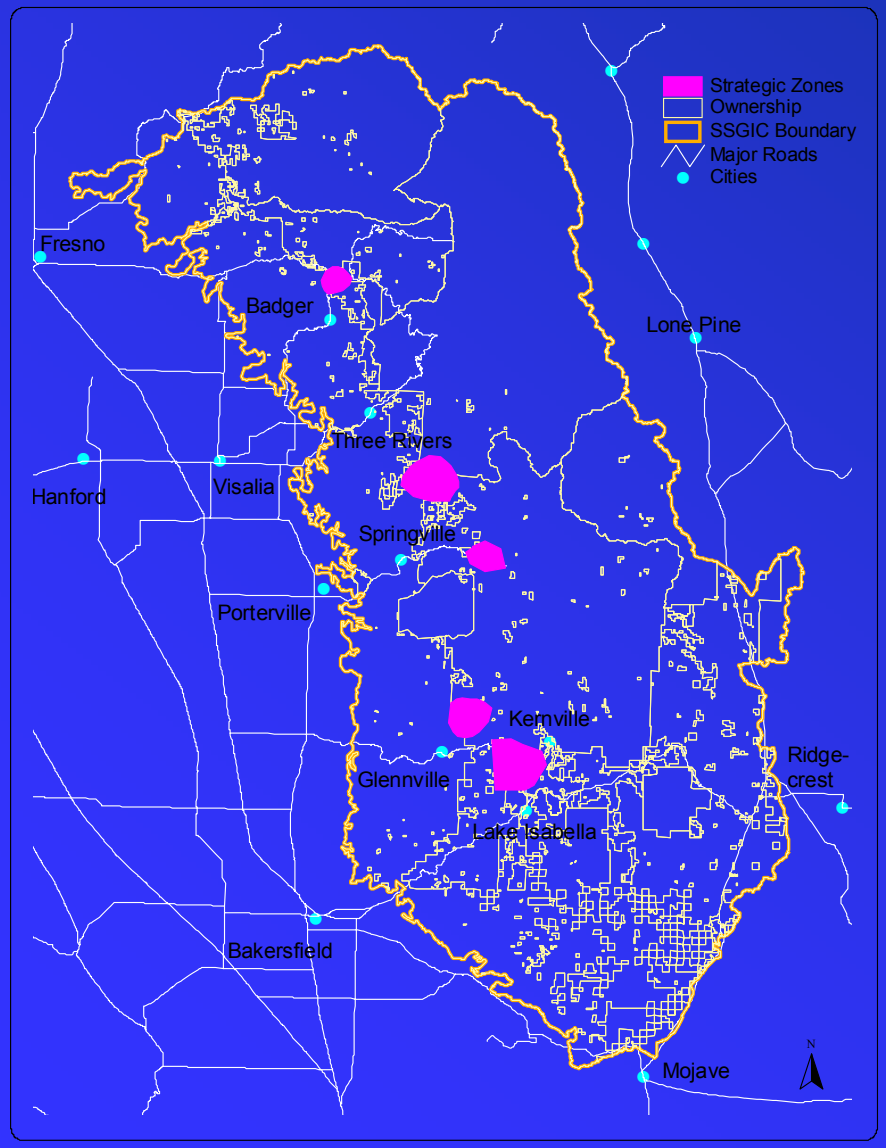
SSGIC Analysis Framework



Fire Management Strategy Zones



- Transition from **Landscape** Level to **Project** Level Planning
- For each fire management strategy zone, identify burn units and fuel treatment activities
- Complete compliance
- Conduct fuels treatments "burn and cut"

What have we learned?

- The business model for developing and maintaining fuel and fire-related information is similar across agencies.
- Fire and fuel information business models should be synchronized across agencies.
- Interagency fuels planning and management will not be fully successful without interagency data development/management.
- Long-term interagency cooperative strategies are needed for managing dynamic data (e.g. fuels, canopy, vegetation)
- It appears that most GIS fire analyses used in planning will work across agencies.
- Well-thought out nationwide and interagency fire-data standards are extremely important (i.e. fire history).

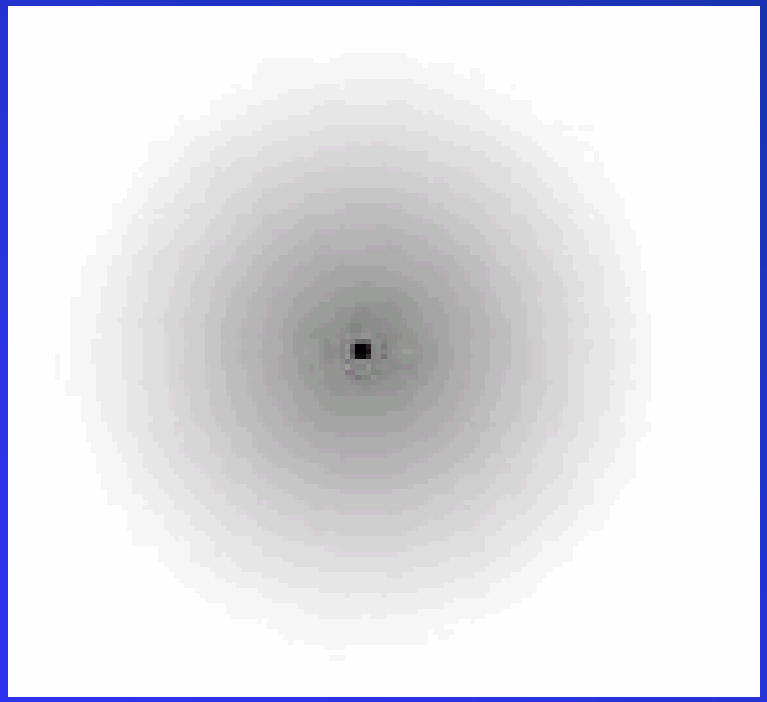
What have we learned so far?

- At the "local" landscape level, there is a critical need to develop a formal COLLABORATIVE fire and fuels planning "ORGANIZATION".

-Includes written agreement(s)
-Interagency with both subject-matter (fire) and GIS staff
-May need a full-time coordinator
-Need benchmarks to measure success
-It makes sense to leverage interagency fire initiative to expand collaboration into other disciplines (e.g. weeds, wildlife, etc.)

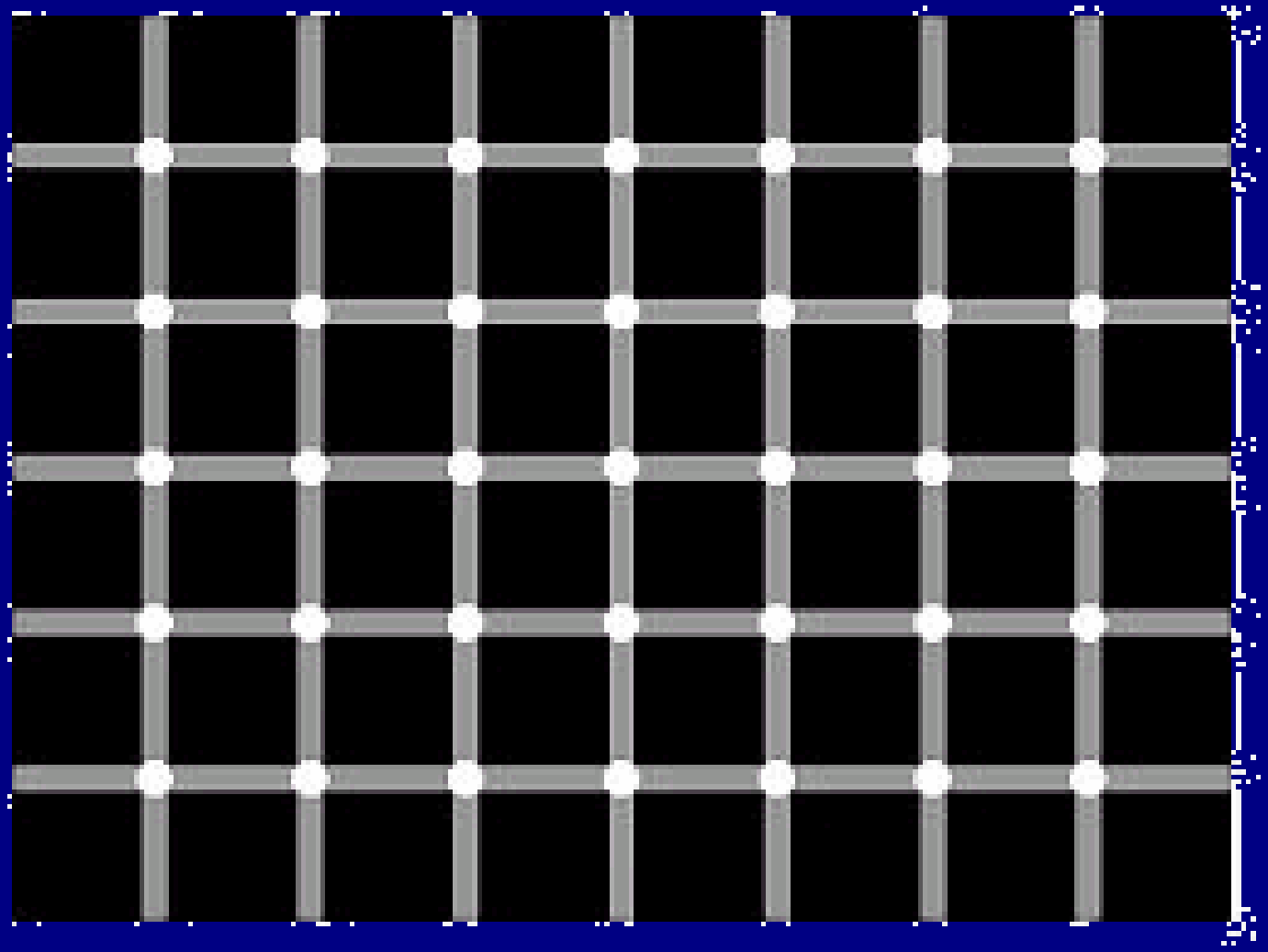
What have we learned so far?

- After treating fuels in an area, we need to be able to spatially and temporally demonstrate change.
- Interagency Collaboration is SLOW. Tangible results probably won't happen quickly.
- More funding by itself won't fix interagency collaboration! Organizational changes and support at different levels are critical.
- Information Technologies should be the "cart" and not the "horse".



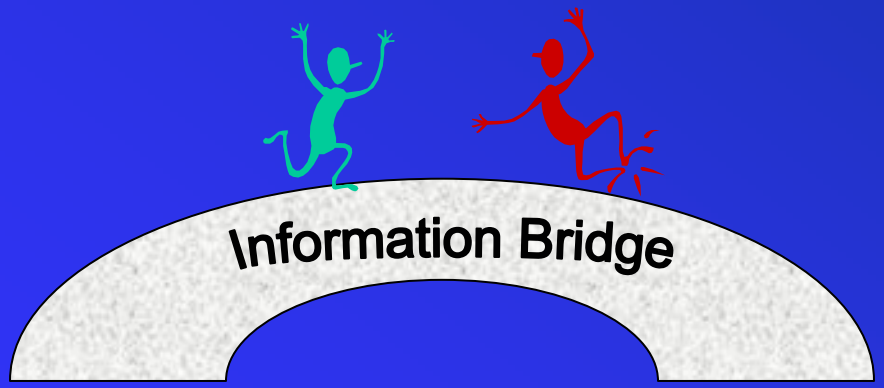
If we can stay focused on landscape-level fuels management
Eventually, the “haze” will begin to go away

ssgic.cr.usgs.gov



Count the BLACK Dots!

Axiom - Interagency data development and management for fire and fuels data is a *very* effective strategy for enhancing agencies ability to accomplish their own mission.



- Cost Effective
- Resources Benefit
- Enhanced Firefighter and Public Safety

Why?

A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the the Environment

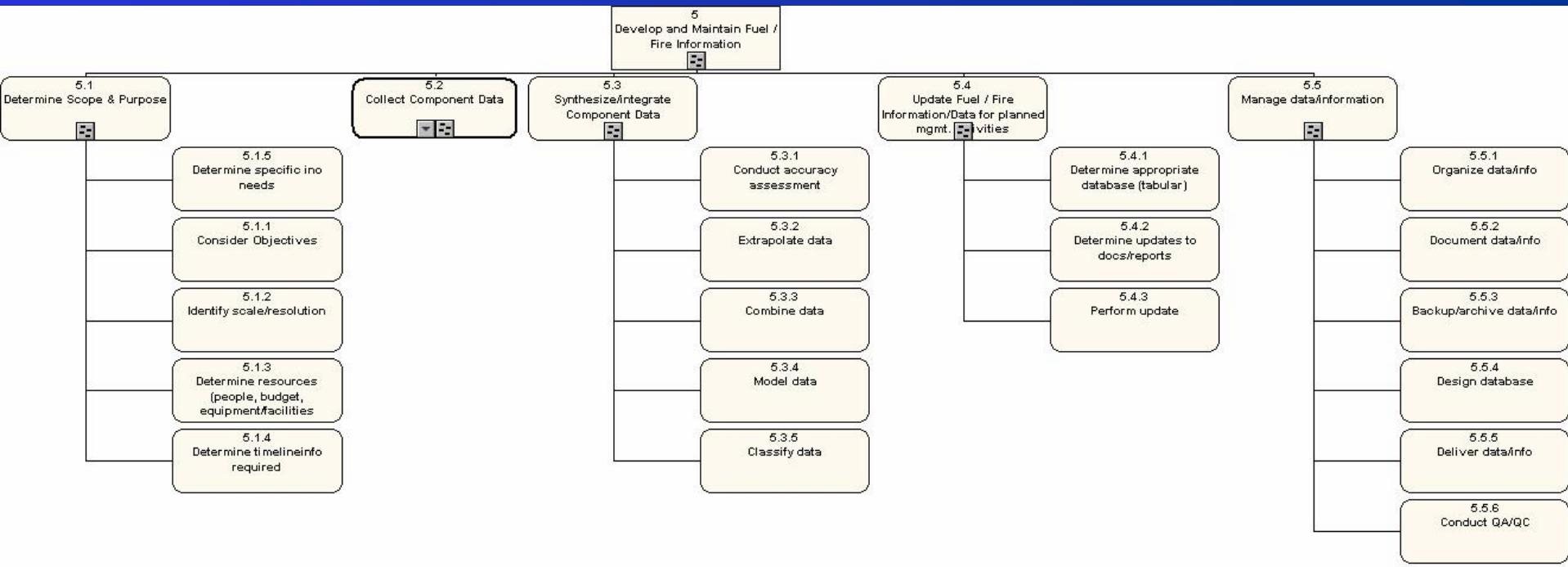
-August 2001 - Cross-Section of gov't and non-gov't stakeholders

"The multi-faceted nature of the issues and jurisdictions addressed by this strategy necessitates communication and collaboration across Federal, State, tribal, and private forest and range lands …. As part of the implementation plan to be developed for the strategy, an information system will be designed to facilitate information gathering and exchange".

Interagency Fuels Planning

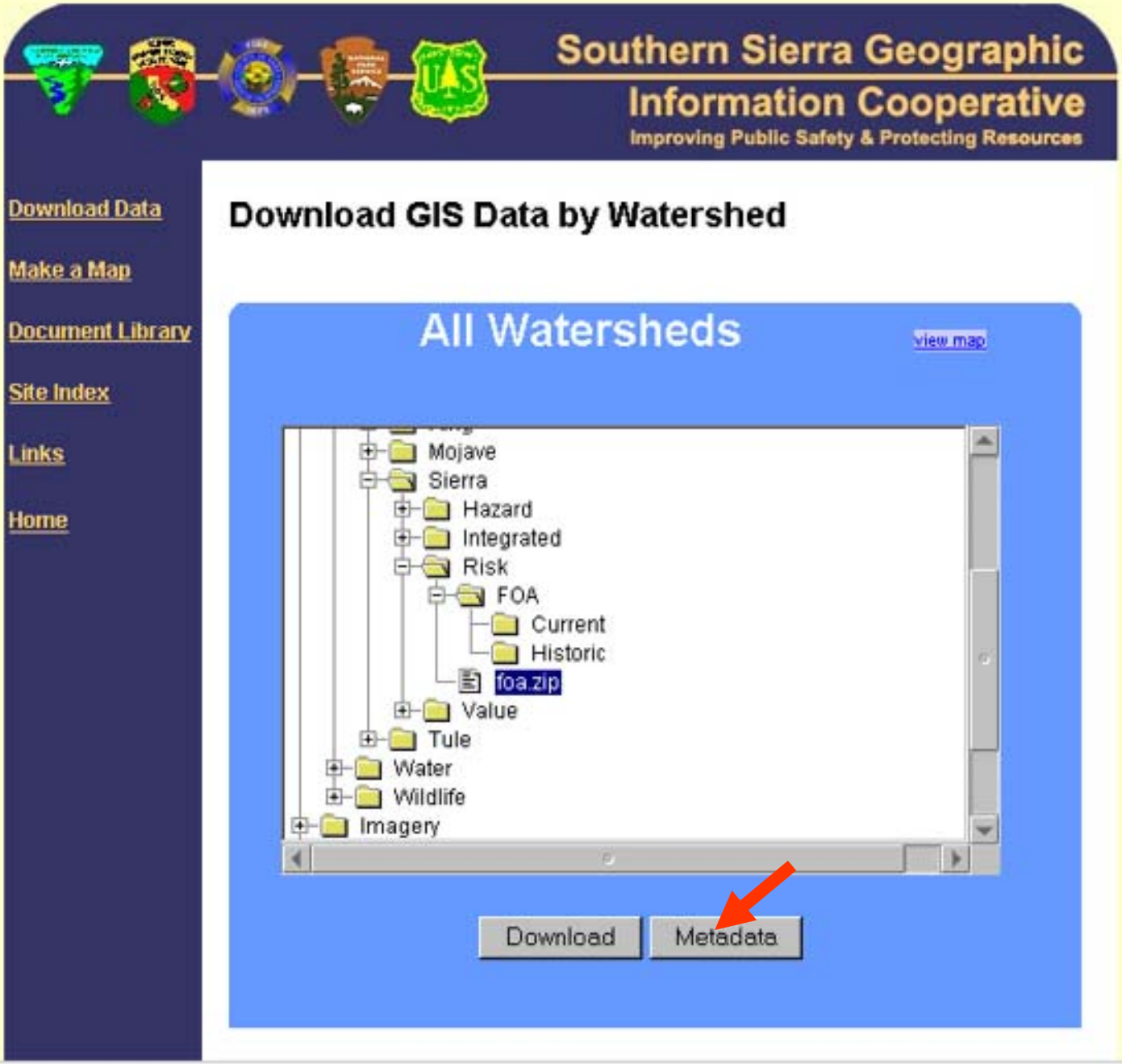
- Fire Managers use analysis tools and products to identify treatment areas
- For each treatment area, select possible fuel treatment activities
- Complete compliance (CEQA & NEPA)

Implement Burn or Mechanical Treatment Plans 2004



- **Fire and fuel information business models should be synchronized across agencies.**
- **Long-term interagency cooperative strategies are needed for managing dynamic data (e.g. fuels, canopy, vegetation)**

Figure 2 – High-level Business Activity Mode for all represented Agencies (Model 2 - Develop and Maintain Fuel & Fire Information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Caliente Airbasins (cal_aba)

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Metadata:

Identification_Information:

Citation:

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Originator: Karen Holmstrom
Publication_Date: October 2000
Title: Caliente Airbasins (cal_aba)
Geospatial_Data_Presentation_Form: vector digital data
Online_Linkage: \\ssgic.cr.usgs.gov\data\themes\air_meteorology\cal_aba.e00

Description:

Abstract:

This is the Southern Sierra Geographic Information Cooperative (SSGIC) project area portion of the California air basin cover
by the Air Resources Board.

Purpose:

The purpose of this coverage is to define those portions of the California air basins as defined by the Air Resources Board which
SSGIC project area.

Time_Period_of_Content: